

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A laser irradiation stage comprising a surface having a cylindrical shape curvature in a single direction on which an object to be irradiated by a beam is placed,

~~wherein the surface provides the cylindrical shape curvature to the object to be irradiated by the beam;~~

wherein the beam is expanded in the single direction,

wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface, and

wherein the stage is incorporated into a laser irradiation apparatus.

2. (Currently Amended) A laser irradiation stage comprising a surface having a concave curvature on which an object to be irradiated by a beam is placed,

~~wherein the surface provides the concave curvature to the object to be irradiated by the beam;~~

wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface,

wherein the stage is incorporated into a laser irradiation apparatus, and

wherein radius of the curvature with respect to a certain focal length of a condenser lens falls within a range of the following two equations:

$$y = 2539.3 \ln(x) - 21447;$$

$$y = 1666.7 \ln(x) - 13098,$$

where y is focal length of the condenser lens, x is the radius of the curvature.

3. (Currently Amended) A laser irradiation stage comprising a surface having a concave cylindrical shape curvature in a single direction on which an object to be irradiated by a beam is placed,

~~wherein the surface provides the concave cylindrical shape curvature to the object to~~

be irradiated by the beam;

wherein the beam is expanded in the single direction,

wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface, and

wherein the stage is incorporated into a laser irradiation apparatus.

4. (Currently Amended) A laser irradiation apparatus comprising:

a laser oscillator;

a first means for expanding a laser beam emitted from the laser oscillator in a first direction;

a second means for condensing the laser beam in a second direction that is orthogonal to the first direction; and

a third means for providing an object to be irradiated with the laser beam expanded in the first direction and condensed in the second direction with a laser beam irradiation surface and moving the laser beam irradiation surface in the second direction, relative to the laser beam;

wherein:

the laser beam irradiation surface has a cylindrical shape curvature in a direction parallel to the first direction, and

the third means comprises a first surface on which the object to be irradiated with the laser beam expanded in the first direction and condensed in the second direction is placed, the first surface having the cylindrical shape curvature in the direction parallel to the first direction, and

wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface.

5. (Currently Amended) A laser irradiation apparatus comprising:

a laser oscillator;

a first means for expanding a laser beam emitted from the laser oscillator in a first direction;

a second means for condensing the laser beam in a second direction that is orthogonal to the first direction; and

a third means for providing an object to be irradiated with the laser beam expanded in the first direction and condensed in the second direction with a laser beam irradiation surface and moving laser beam the irradiation surface in the second direction, relative to the laser beam;

wherein:

the laser beam irradiation surface has a curvature in a direction parallel to the first direction,

the third means comprises a first surface on which the object to be irradiated with the laser beam expanded in the first direction and condensed in the second direction is placed, the first surface having the curvature in the direction parallel to the first direction, and

wherein radius of the curvature with respect to a certain focal length of a condenser lens falls within a range of the following two equations:

$$y = 2539.3 \ln(x) - 21447;$$

$$y = 1666.7 \ln(x) - 13098,$$

where y is focal length of the condenser lens, x is the radius of the curvature, and
wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface.

6. (Currently Amended) A laser irradiation apparatus comprising:

a laser oscillator;

a first means for expanding a laser beam emitted from the laser oscillator in a first direction;

a second means for condensing the laser beam in a second direction that is orthogonal to the first direction; and

a third means for providing an object to be irradiated with the laser beam expanded in the first direction and condensed in the second direction with a laser beam irradiation surface and moving the laser beam irradiation surface in the second direction, relative to the laser beam;

wherein:

the laser beam irradiation surface has a concave cylindrical shape curvature in a direction parallel to the first direction, and

the third means comprises a first surface on which the object to be irradiated with the

laser beam expanded in the first direction and condensed in the second direction is placed, the first surface having the concave cylindrical shape curvature in the direction parallel to the first direction, and

wherein the object to be irradiated is placed between a center of the radius of the curvature and the surface.

7. (Original) A laser irradiation apparatus according to claim 4, wherein the first means contains a cylindrical lens array or a cylindrical lens.

8. (Original) A laser irradiation apparatus according to claim 5, wherein the first means contains a cylindrical lens array or a cylindrical lens.

9. (Original) A laser irradiation apparatus according to claim 6, wherein the first means contains a cylindrical lens array or a cylindrical lens.

10. (Original) A laser irradiation apparatus according to claim 4, wherein the second means contains a cylindrical lens array or a cylindrical lens.

11. (Original) A laser irradiation apparatus according to claim 5, wherein the second means contains a cylindrical lens array or a cylindrical lens.

12. (Original) A laser irradiation apparatus according to claim 6, wherein the second means contains a cylindrical lens array or a cylindrical lens.

13. (Original) A laser irradiation apparatus according to claim 4, wherein the laser oscillator is an excimer laser, a YAG laser, a YVO₄ laser, a YLF laser, a YA1O₃ laser, or a glass laser.

14. (Original) A laser irradiation apparatus according to claim 5, wherein the laser oscillator is an excimer laser, a YAG laser, a YVO₄ laser, a YLF laser, a YA1O₃ laser, or a glass laser.

15. (Original) A laser irradiation apparatus according to claim 6, wherein the laser oscillator is an excimer laser, a YAG laser, a YVO₄ laser, a YLF laser, a YA1O₃ laser, or a glass laser.

16-30. (Cancelled)